

REMARKS

Claims 1-10 and 29-46 are pending.

Claim 44 stand rejected under 35 USC §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as the invention.

Claims 1, 3 and 31 stand rejected under 35 USC §103(a) as being allegedly unpatentable over Juskey et al. (US Patent No. 6,356,453) in view of Akram (US Patent No. 6,048,656).

Claims 2, 4-6, 29, 30, 32-36 and 41-46 stand rejected under 35 USC §103(a) as being allegedly unpatentable over Juskey et al. (US Patent No. 6,356,453) in view of Akram (US Patent No. 6,048,656) in view of Tang et al (US Patent No. 6,291,264).

Claims 9 and 39 stand rejected under 35 USC §103(a) as being allegedly unpatentable over Juskey et al. (US Patent No. 6,356,453) in view of Akram (US Patent No. 6,048,656) in view of Tang et al (US Patent No. 6,291,264) in view of Chason et al. (Publication No. 2004/0118599).

Changes in the Claims:

Claims 1, 31, 41, 44 have been amended in this application to further particularly point out and distinctly claim subject matter regarded as the invention. The amendments are supported by the specification as originally filed, for example, at FIGS. 1 and 3. No new matter has been added.

Rejection under 35 USC §112, second paragraph – claim 44

Claim 44 stand rejected under 35 USC §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as the invention. This rejection is respectfully traversed.

The Office Action alleges that the term “the angle is in a range from about 179⁰ to about 91” in claim 44 is unclear. Claim 44 has been amended to delete this term. The claims now meet the statutory requirements.

Rejection under 35 USC §103(a) – claims 1, 3 and 31

Claims 1, 3 and 31 stand rejected under 35 USC §103(a) as being allegedly unpatentable over *Juskey* et al. (US Patent No. 6,356,453) in view of *Akram* (US Patent No. 6,048,656). This rejection is respectfully traversed.

Juskey describes an active flip chip component and a passive flip chip component. As stated in the Office Action, *Juskey* does not teach or suggest a fluid barrier disposed local to the passive component site and spaced apart from the active component site.

Akram describes dam 120 and 125 surrounding a semiconductor device 110.

Applicant respectfully submits that the proposed combination of *Juskey* and *Akram* does not teach or suggest all of the claim limitations of claims 1, 3, and 31. In particular, neither teach or suggest a “fluid flow barrier comprising an **unfilled recess**; and an underfill material filling a space between the active component site and the mounting substrate, **the underfill material stopping at or near an edge of the recess.**” *Akram* does not teach or suggest fluid flow barrier comprising an unfilled recess. The barriers do not include any recess; they are in a shape of a dam. An underfill material fills the space between the semiconductor device, the substrate, and the barriers. *Juskey* is silent as to any fluid barrier.

Applicant therefore submits that the rejection based the *Juskey* and *Akram* reference be withdrawn. Thus, Applicant submits that claims 1, 3, 31 recite novel subject matter which distinguishes over any possible combination of *Juskey* and *Akram*.

Rejection under 35 USC §103(a) – claims 2, 4-6, 29, 30, 32-36 and 41-46

Claims 2, 4-6, 29, 30, 32-36 and 41-46 stand rejected under 35 USC §103(a) as being allegedly unpatentable *Juskey* et al. (US Patent No. 6,356,453) in view of *Akram* (US Patent No. 6,048,656) in view of *Tang* et al (US Patent No. 6,291,264). This rejection is respectfully traversed.

Applicant respectfully submits that the proposed combination of *Juskey*, *Akram* and *Tang* does not teach or suggest all of the claim limitations of claims 2, 4-6, 29, 30, 32-36 and 41-46.

Tang describes a groove structure 20'. The “dispensed resin would be confined by the groove structure 20' to flow only toward and into the gap 5' without flashing to

other areas beyond the groove structure 20'." Col. 4, lines 54-57. The combined teachings of *Juskey*, *Akram* and *Tang* do not teach or suggest to one of ordinary skill in the art a "fluid flow barrier comprising an **unfilled recess**; and an underfill material filling a space between the active component site and the mounting substrate, **the underfill material stopping at or near an edge of the recess**" as claimed. In particular, the groove structure 20' is filled with the dispensed resin in *Tang*.

Applicant therefore submits that the rejection based the *Juskey*, *Akram* and *Tang* reference be withdrawn. Thus, Applicant submits that claims 2, 4-6, 29, 30, 32-36 and 41-46 recite novel subject matter which distinguishes over any possible combination of *Juskey*, *Akram* and *Tang*.

Rejection under 35 USC §103(a) – claims 9 and 39

Claims 9 and 39 stand rejected under 35 USC §103(a) as being allegedly unpatentable over *Juskey* et al. (US Patent No. 6,356,453) in view of *Akram* (US Patent No. 6,048,656) in view of *Tang* et al (US Patent No. 6,291,264) in view of *Chason* et al. (Publication No. 2004/0118599). This rejection is respectfully traversed.

Applicant respectfully submits that the proposed combination of *Juskey*, *Akram*, *Tang* and *Chason* does not teach or suggest all of the claim limitations of claims 9 and 39. The argument sets forth above with respect to claims 2, 4-6, 29, 30, 32-36 and 41-46 are equally applicable.

Applicant therefore submits that the rejection based the *Juskey*, *Akram*, *Tang* and *Chason* reference be withdrawn. Thus, Applicant submits that claims 9 and 39 recite novel subject matter which distinguishes over any possible combination of *Juskey*, *Akram*, *Tang* and *Chason*.

Conclusion

For all of the above reasons, applicants submit that the amended claims are now in proper form, and that the amended claims all define patentable subject matter over the prior art. Therefore, Applicants submit that this application is now in condition for allowance.

Request for allowance

It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

Invitation for a Telephone Interview

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

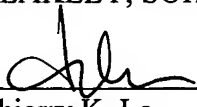
Extension of Time

Pursuant to 37 C.F.R. 1.136(a)(3), applicant(s) hereby request and authorize the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: February 8, 2007



Thierry K. Lo
Reg. No. 49,097

12400 Wilshire Blvd.
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300